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Remedial Action Plan
for
Additional Soil Removal near the Removed Clarifier
at
Stoody Company
City of Industry, California

Clayton Project No. 37861.00
February 7, 1992

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1851 - 04279

Clayton
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February 7, 1992

Mr. Sam Yu
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754-2156

Clayton Project No. 37861.00
CRWQCB File No. 105.0263

Subject: Remedial Action Plan for Additional Soil Removal near the former Clarifier at Stoody Company, 16425 East Gale Avenue, City of Industry, California

Dear Mr. Yu:

On behalf of Stoody Company, Clayton Environmental Consultants, Inc. is submitting this remedial action plan (RAP) to the California Regional Water Quality Control Board (CRWQCB).

This RAP addresses the comments of Clayton's Soil Remediation Report of January 6, 1992 (Clayton Project No.37861.00) and outlines a proposed scope of work and procedures for the additional remediation required in the area of the former clarifier.

If you have any further questions, please contact me at (714) 229-4806.

Sincerely,

Guy Romine
Geologist
Pacific Operations

Sincerely,

for David H. Randell, R.G.
Manager, Environmental Engineering
Pacific Operations

GR
cc: Christopher T. Paule, Thermadyne Industries
Rick Williams, Stoody Company
Jaswant Singh, Ph.D., Director, Pacific Operations

CONTENTS

1.0 INTRODUCTION

Stoody Company Inc. retained Clayton Environmental Consultants Inc., on July 22, 1991, to produce a remedial action plan (RAP) to perform soil remediation at their facility in the City of Industry, California (Figure 1). This work was requested by the California Regional Water Quality Control Board (CRWQCB) in a letter dated July 3, 1991. The RAP was revised according to CRWQCB correspondence dated August 22, 1991.

The planned remediation activities include the removal of an industrial clarifier and a sump, and the excavating of contaminated soil in both these areas. This RAP also includes a description of a limited shallow soil investigation planned for a portion of the rear of the Stoody facility. This RAP was prepared in accordance with the scope of work and terms and conditions, set forth in Clayton's Proposal No. 91-SEE-099 dated July 18, 1991. Implementation of the RAP began on November 4, 1991.

Currently several issues have surfaced with regard to resolution of environmental concerns associated with the former clarifier:

The soil samples submitted for analysis from the excavation indicated high levels of total recoverable petroleum hydrocarbons (TRPH) and acetone existed in the sidewalls and bottom of the excavation. Based on the remediation action levels cited by the CRWQCB, TRPH levels can not exceed 10.0 parts per million (ppm). The concentration of TRPH averages 13,000 ppm for the eight samples collected. These results indicated that unacceptably high levels of TRPH still remain in the soil surrounding and below the excavation. CRWQCB personnel will likely require further excavation to remove soil containing TRPH at levels in excess of 10.0 ppm.

The extent of contaminated soil near the clarifier is partially defined at this time; however, it appears to extends to the south, near the building foundation, and significantly further to the north away from the excavation, and deeper than the existing 17-foot depth. Estimates of the total volume of contaminated soil are difficult to make with the data collected, but could range between an additional 300 to 500 cubic yards.

1.1 OBJECTIVES

Clayton's objectives are to provide a plan that is acceptable to the CRWQCB for the removal of a sufficient volume of contaminated soil in the area of the former clarifier which meets the requirements of the CRWQCB and provide a safe stable foundation for soil removal near the building footing.

1.2 SCOPE OF WORK

Clayton will perform the following scope of work to accomplish the objectives for the soil remediation:

Clarifier

- Backfill the excavation with existing contaminated soil to provide a stable base on which to excavate contaminated soil that lies close to the building foundation.
- Reroute the fire suppression water main away from the zone of soil contamination
- Coordinate with SCE concerning their rerouting of their 1,500-KVA line at the foot of the building. Acquire cost estimates to conduct rerouting and establish a tentative schedule to complete the work
- Excavate contaminated soil in the area adjacent to the building with a bucket auger to a maximum depth of 30 feet. Backfill the bucket auger borehole with a cement slurry. This process would be repeated until the body of contamination is removed along the edge of the building
- Excavate contaminated soil in the area of the clarifier with a clam-shovel type excavator to a maximum depth of 30 feet
- Place excavated soil on a plastic liner for future disposal based on laboratory results from a combination of on-site and off-site laboratory services
- Monitor vapors from the excavation and spoils piles to comply with South Coast Air Quality Management District (SCAQMD) Rule 1166
- Collect soil samples from the boreholes and pit during excavating to assess the extent of soil contamination and guide the excavation effort
- Analyze soil samples in a laboratory certified by the State of California, Department of Health Services
- Cover excavation spoils pile(s) with plastic sheeting
- Prepare and submit a closure report
- Backfill and compact excavations with imported fill material after confirmatory soil samples demonstrate adequate cleanup is achieved

2.0 BACKGROUND

On March 16, 1988, the Stoody Company facility was inspected by California Regional Water Quality Control Board (CRWQCB) staff member Mr. Dainis Kleinbergs. As a result of that inspection, Stoody was directed to develop a general housekeeping plan and to conduct an initial subsurface soil investigation at their facility.

In June of 1988, Clayton Environmental Consultants, Inc. was retained by Stoody to prepare the general housekeeping plan and the initial subsurface soil investigation workplan. On July 19, 1988, Clayton obtained approval of the proposed housekeeping plan and initial subsurface investigation workplan from Mr. Roy Sakaida of the CRWQCB. The initial subsurface investigation was implemented in July 1988.

On July 21, 1988, Clayton Environmental Consultants performed a site assessment at the Stoody Company. Five soil boreholes (SB-1 through SB-5; Figure 2) were drilled to assess a chemical waste storage area, a chemical waste storage sump area, an electrical transformer area, and a general storage area. The boreholes were drilled to 10 feet below ground surface and sampled. Laboratory analyses revealed the presence of total petroleum hydrocarbons (TPH), and a number of volatile organic compounds (VOCs).

Clayton's final report of that investigation was presented to the CRWQCB on October 19, 1988. Included with the soil investigation report was Stoody's proposed groundwater monitoring workplan, as required by the CRWQCB.

Clayton began implementation of an initial groundwater monitoring work plan in January 1989, after receiving approval from both the CRWQCB and Stoody Company. On January 23, 1989, Clayton advanced the previously drilled borehole SB-5 deeper and constructed a groundwater monitoring well (MW-3). Two other boreholes, SB-6 and SB-7, were drilled and sampled and groundwater monitoring wells were constructed. SB-6 is now known as MW-1. SB-7 is now known as MW-2. SB-5 is now known as MW-3. On March 6, 1989, a fourth groundwater monitoring well was installed upgradient of the other three wells (MW-4).

Laboratory analysis of the soil samples from MW-1 through MW-4 detected no TPH. The laboratory reported the detection of acetone and methylene chloride in the soil samples from MW-4, the upgradient well.

Laboratory analysis of the water samples from MW-1 through MW-4 detected the presence of eight different VOCs. The presence of those VOCs has stimulated a quarterly groundwater monitoring program by the CRWQCB separate from the apparent soil contamination concerns.

The report was sent to the CRWQCB after Stoody's review on June 22, 1990.

Quarterly Groundwater Reports followed in September 1989; December 1989; June 1990.

In January 1990, Clayton was retained to sample and visually inspect the interior of the clarifier and to assess subsurface soil conditions adjacent to the clarifier and in the chemical barrel storage area. Both tasks were designed to meet the CRWQCB's request for additional investigation.

On January 18 and 19, 1990, Clayton performed an additional site assessment at Stoody Company. Three 10-foot boreholes (SB-1 through SB-3) were drilled and sampled in a chemical storage area and two boreholes (SB-4 through SB-5) were drilled and sampled near the industrial waste clarifier.

The laboratory reported the detection of five VOCs in the soil samples collected in the boreholes in the chemical storage area. The laboratory reported the detection of eight VOCs in the soil samples collected from the boreholes near the clarifier, as well as TPH.

On December 26, 1990, Ms. Nicole Jafari, Industrial Engineer with Stoody Company, authorized Clayton to perform a quarterly groundwater monitoring program for 1991 as required by the CRWQCB. Quarterly groundwater reports followed in January 1991; June 1991; September 1991, and December 1991.

On January 31 and February 1, 1991, Clayton performed additional site assessment work at Stoody Company. Four exploratory boreholes, BH-10 through BH-13, and one additional groundwater monitoring well, MW-5, were drilled. Two of the boreholes, BH-10 and BH-11, were drilled at the industrial clarifier and MW-5 was installed immediately downgradient of the clarifier. Boreholes BH-12 and BH-13 were drilled in the area of the sump in the chemical storage area.

The laboratory reported the detection of five different VOCs, TPH, and three metals in the soil samples collected from the boreholes near the clarifier. The laboratory reported the detection of four VOCs, TPH, and three metals in the soil samples collected from the soil boreholes near the sump.

Additionally, in August 1991, Clayton completed a Remedial Action Plan that detailed the removal of the sump and clarifier in accordance with the CRWQCB requirements stated in their July 3, 1991, letter to Stoody. Implementation of the RAP began on November 4, 1991. The RAP report was sent to the CRWQCB on January 6, 1992.

3.0 REMEDIATION ACTIVITIES

Clayton's remediation will consist of three distinct activities: field procedures, field work, and laboratory analyses. These activities will be performed to meet the existing site constraints, the remediation objectives, and the requirements of the CRWQCB.

In addition, Clayton will prepare a site Health and Safety Plan in accordance with current Occupational Safety and Health Administration (OSHA) requirements as described in CFR 1910.120.

3.1 FIELD PROCEDURES

Clayton will use the following field procedures to monitor the field activities used during remediation. These procedures will be used for excavating the contaminated soil, sampling the excavation limits, and analyzing the soil samples.

3.1.1 Excavating Procedures

Clayton will direct a bucket auger and clamshovel to excavate the soil during the excavating procedures. As the soil is removed from the ground it will be placed near the excavation area, on plastic sheeting on the existing asphalt area. When enough soil has been excavated to meet the objectives of this plan, the newly created spoils pile(s) from the excavation will be covered with plastic for future disposal based on the results of laboratory analyses.

The boreholes and soil samples will be described by a Clayton geologist under the supervision of a California Registered Geologist using the Unified Soil Classification System (USCS). Borehole or excavation logs will be prepared to document these descriptions.

Drill cuttings will be placed with excavated soil from the clarifier for disposal by Stoody. The boreholes will be backfilled to grade with a cement grout.

3.1.2 Soil Sampling Procedures

Soil samples will be collected using a drive sampler with extension rods to collect samples from the excavation bottom and sidewalls. Stainless steel cylinders (2.5 inch diameter and 3 inch length) will be driven into the soil with a drive sampler. The soil sampling cylinders will be completely fill with soil so that no headspace is present in the ends of the sampling tube. The ends of the tube will be covered with aluminum foil and polyethylene caps and Scotch 33+ electrical tape. The samples will then be labeled, placed in self-sealing plastic bags, placed under Blue-Ice™ in a portable cooler and transported, following standard chain of custody procedures, to either a mobil onsite or other laboratory certified by the State of California, Department of Health Services for analysis.

General

Clayton will evaluate excavated and sampled soils for volatile organic compounds (VOCs) in the field using an organic vapor analysis (OVA) headspace technique. Selected samples of soil from the backhoe bucket or hand sampler will be placed in Ziploc™ bags and allowed to volatilize in direct sunlight for a minimum of 30 minutes. A sensor tip of a photoionization detector (PID) will then be inserted through the plastic bag. The concentration of VOCs in the plastic bag will be measured with the PID meter and recorded in the field notes. The PID meter will also be used to measure breathing zone and excavation atmosphere concentrations of VOCs during the excavating and drilling activities.

The excavations and soil samples will be described by a Clayton Geologist under the supervision of a California Registered Geologist using the Unified Soil Classification System (USCS).

3.2 FIELD WORK

Field work for the additional remediation will consist of:

- Backfill the excavation with existing contaminated soil to provide a stable base on which to excavate contaminated soil that lies close to the building foundation.
- Reroute the fire suppression water main away from contaminated soil zone
- Coordinate with SCE concerning their rerouting of their 1,500-KVA line at the foot of the building. Acquire cost estimates to conduct rerouting and establish a tentative schedule for the work to be completed
- Excavate contaminated soil in the area of the building with a bucket auger to a maximum depth of 30 feet. Backfill the bucket auger boreholes with a cement slurry. This process would be repeated until the body of contamination is removed along the edge of the building
- Excavate contaminated soil north of the auger holes in the area of the clarifier with a clamshovel type excavator to a maximum depth of 30 feet
- Collect soil samples from the excavation bottoms and sidewalls for laboratory analyses
- Stockpile and cover excavated soils with plastic sheeting for future disposal by Stoody Company
- Backfill and compact the excavations, and repave the surface

The extent of contaminated soil near the clarifier is not completely defined at this time; however, it appears to extend significantly further away from the excavation and deeper than the existing 17-foot depth. Stained soil is present in the sidewalls of the excavation, especially on the north and south sides. Estimates of the total volume of contaminated soil are difficult to make with the data collected, but could range between an additional 300 to 500 cubic yards.

The excavation of additional contaminated soil is complicated by the presence of underground utility lines that lie adjacent to the excavation. A 12-KVA and 1,500-KVA electrical lines, and a high pressure fire suppression water line will require rerouting before further excavation can be done to the north and south. The rerouting of the Southern California Edison (SCE) electrical lines may take some time to schedule.

A further complication could be if the contamination has spread to under the building. If soil contamination is found at depth along the edge of the building, the CRWQCB may require excavation and removal of soil from under the building if the concentration and type of contamination warrant that soil be removed to protect the groundwater from contamination.

3.3 ANALYTICAL METHODS

Laboratory analyses of the soil samples from the previous site assessment revealed the presence of TPH, VOCs, and the soluble threshold limit concentration (STLC) and total threshold limit concentration (TTLC) metals. Based on those results Clayton has selected the following test methods for soil analyses:

- EPA Method 418.1 for TPH
- EPA Method 8240 for VOCs
- STLC Metals
- TTLC Metals for copper, nickel, and chromium VI

3.4 ACTION LEVELS

Based on the previous site assessment work and the correspondence from the CRWQCB issued to Stoody Company on October 22, 1990, Clayton will use the guidelines listed in table 1 of the appendix as acceptable concentrations of contaminants to be left in the soil.

We plan to receive the laboratory analyses on a 7-day or less turnaround schedule from a combination of a mobil laboratory and off-site laboratory certified by the State of California. Clayton will report the results to the CRWQCB for their approval prior to backfilling the excavations.

3.5 BACKFILLING

The excavation will not be backfilled until confirmatory samples have demonstrated cleanup to CRWQCB-approved levels. Imported soil will be used to backfill the clarifier excavation. The imported material will first be subjected to laboratory analysis by EPA Method 418.1 for TPH. Acceptable concentrations of TPH will be 10 mg/kg and less. The imported material will be tested once for about every 10 cubic yards of fill. Up to five fill material samples will be composited per laboratory test.

The backfill will be placed under the direction of a licensed engineer or engineering geologist. The backfill will be placed such that the material is compacted to at least 90% relative compaction.

3.6 SOIL DISPOSAL

It is anticipated that the excavated soil will be removed from the site and placed in an appropriate landfill facility. Clayton will assist Stoody Company in identifying a properly licensed waste disposal company to handle transportation and disposal of the soil to an appropriate landfill facility. Clayton will provide the CRWQCB with documentation of soil disposal in our closure report for this project.

4.0 CLOSURE REPORT

A report containing the data collected during the remediation activities, documentation of the proper disposal of the excavated soil, and Clayton's recommendations and conclusions will be sent to the CRWQCB upon completion of the RAP and disposal of the excavated soil.

5.0 LIMITATIONS

The information and opinions rendered in this report are exclusively for use by Stoody Company. Clayton Environmental Consultants, Inc. will not distribute this report without Stoody Company consent except as may be required by law or court order. The information and opinions expressed in this report are given in response to our limited assignment and should be evaluated and implemented only in light of that assignment. We accept responsibility for the competent performance of our duties in executing the assignment and preparing this report in accordance with the normal standards of our profession but disclaim any responsibility for consequential damages.

This report submitted by:

Guy K. Romine
Environmental Consultant

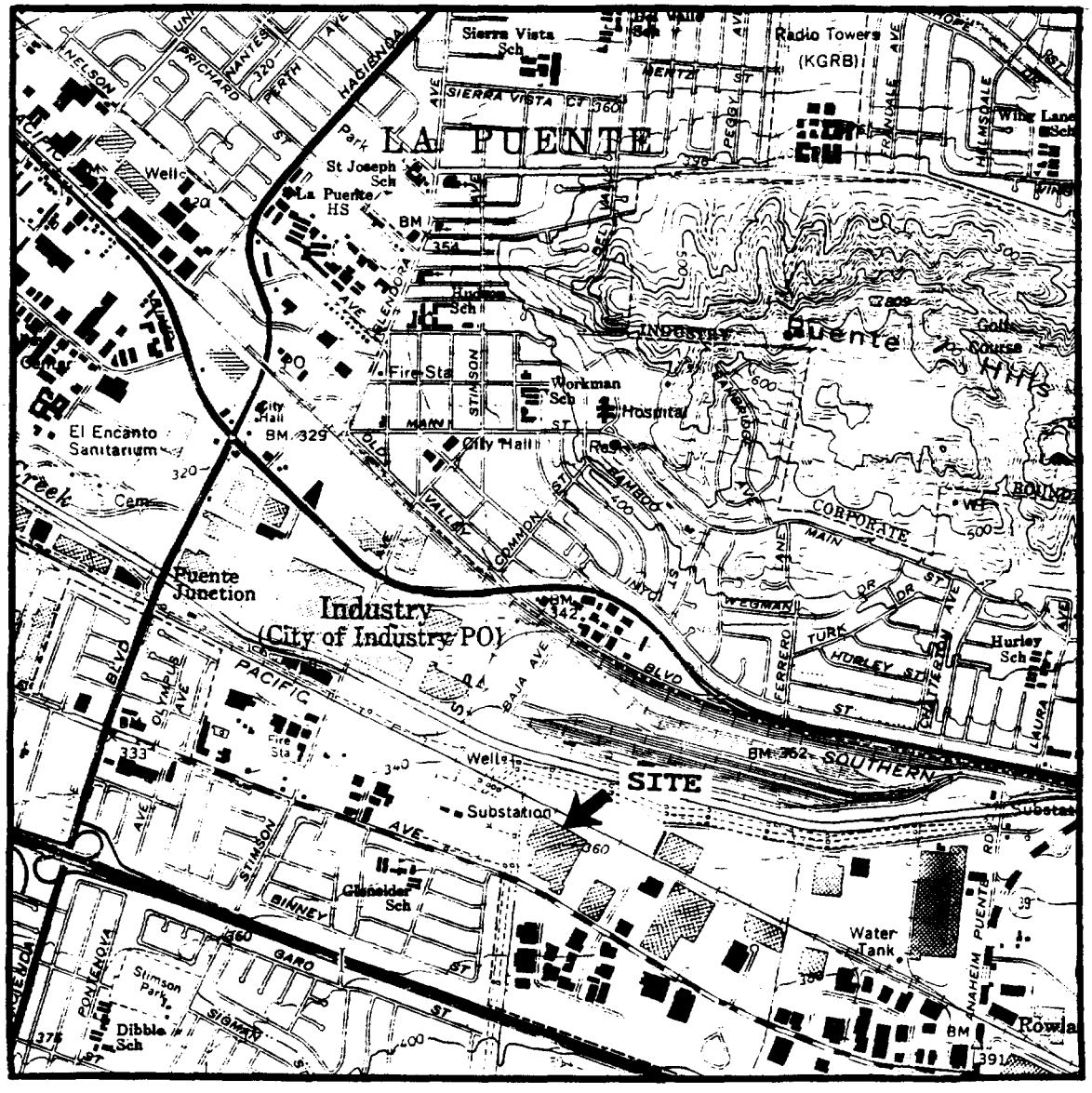
This report reviewed by:

for David H. Randell
Registered Geologist, No. 3977
Manager, Environmental Engineering
Pacific Operations

February 7, 1992

APPENDIX

FIGURES AND TABLE



BASEMAP TAKEN FROM USGS 1966, BALDWIN PARK, CALIFORNIA QUADRANGLE, 7.5 MINUTE SERIES (TOPOGRAPHIC), PHOTOREVISED 1981.

QUADRANGLE LOCATION

SCALE 1:24000

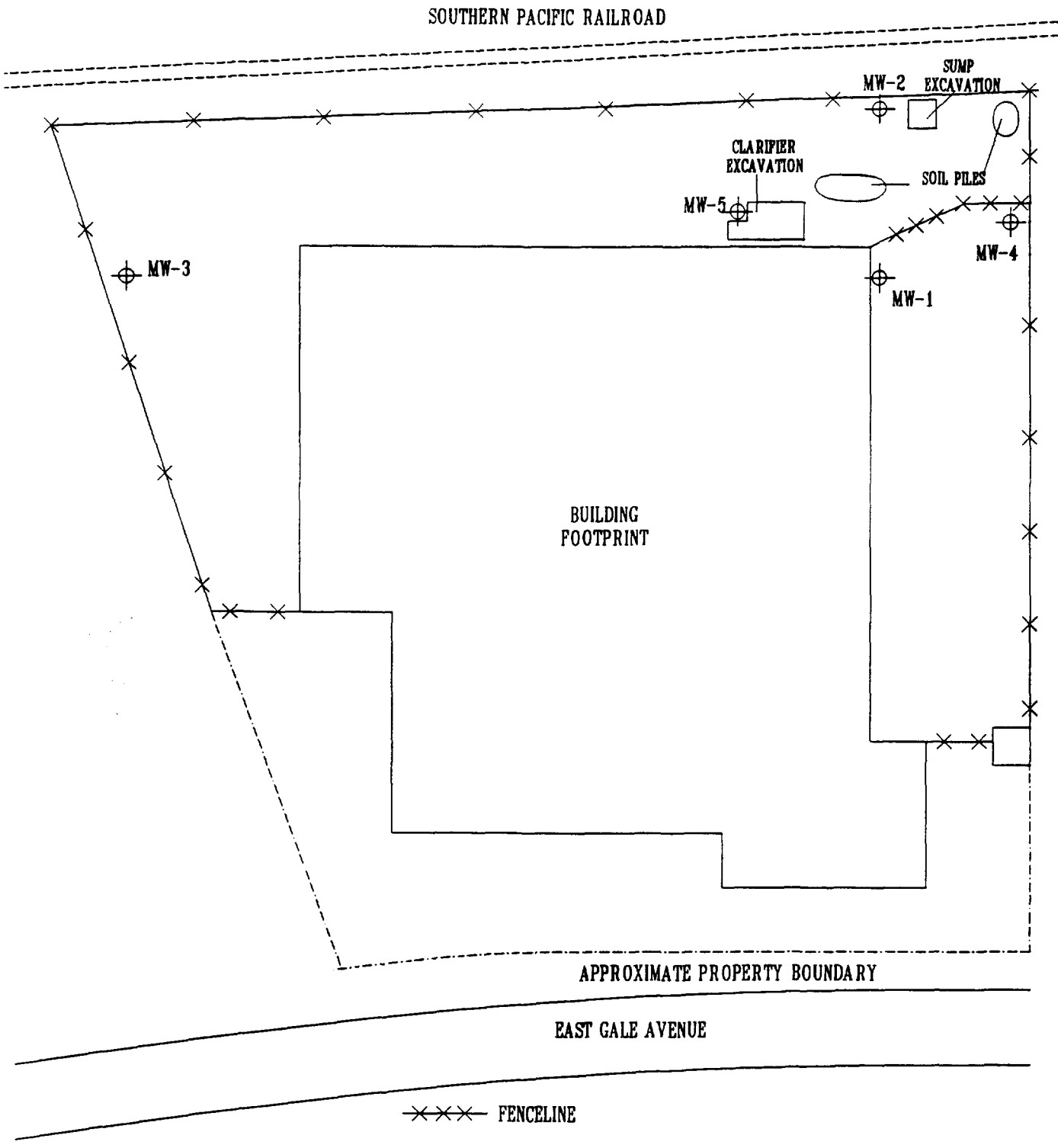
1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

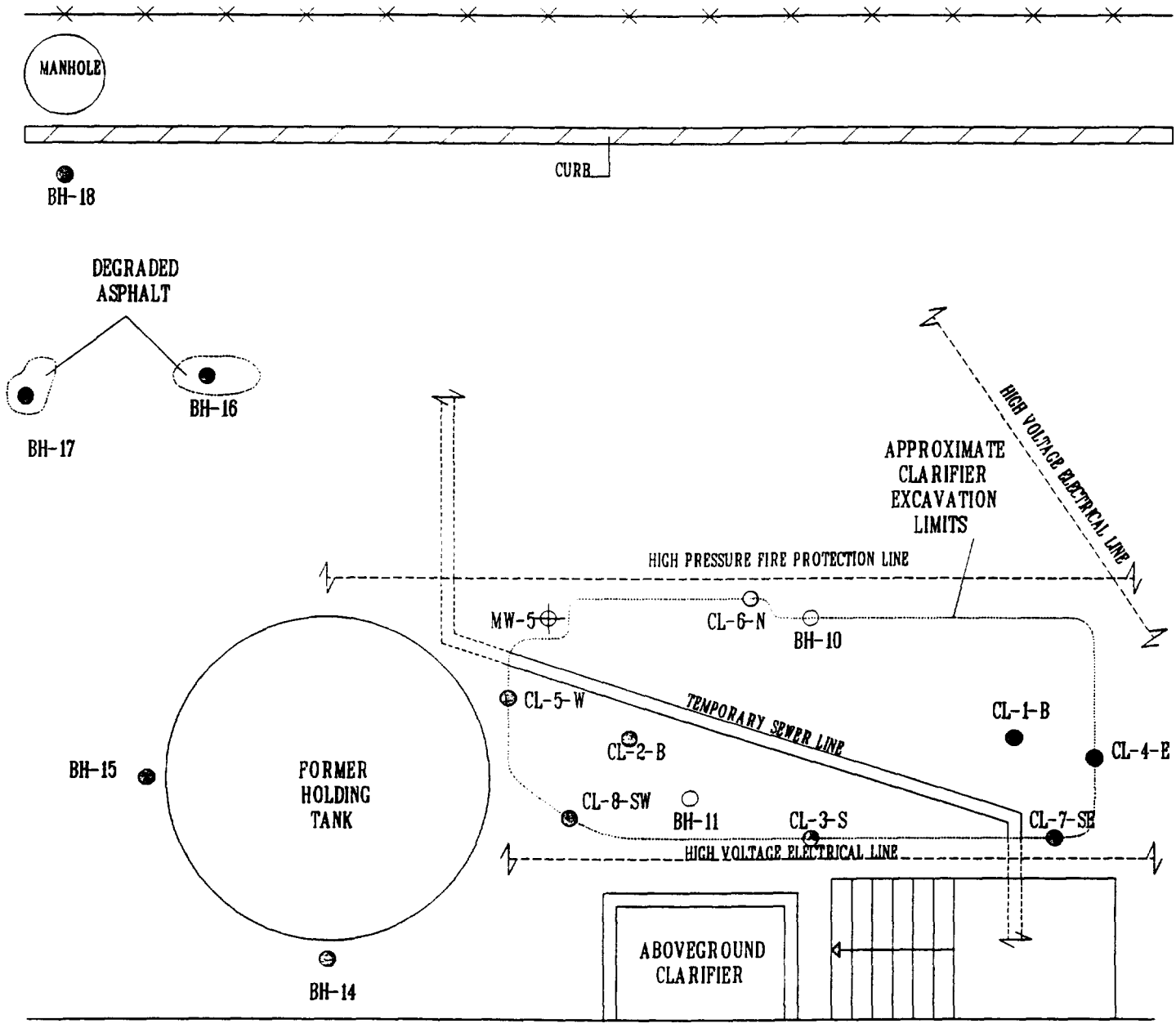
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
GENERAL SITE LOCATION AND TOPOGRAPHY	1
STOODY COMPANY INDUSTRY, CALIFORNIA — PROJECT NO. 37861.00	1/92



DRAWING NOT TO SCALE

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
SITE LOCATION MAP	2
STOODY COMPANY INDUSTRY, CALIFORNIA — PROJECT NO. 37861.00	1/92



● APPROXIMATE BOREHOLE LOCATION (11/91)

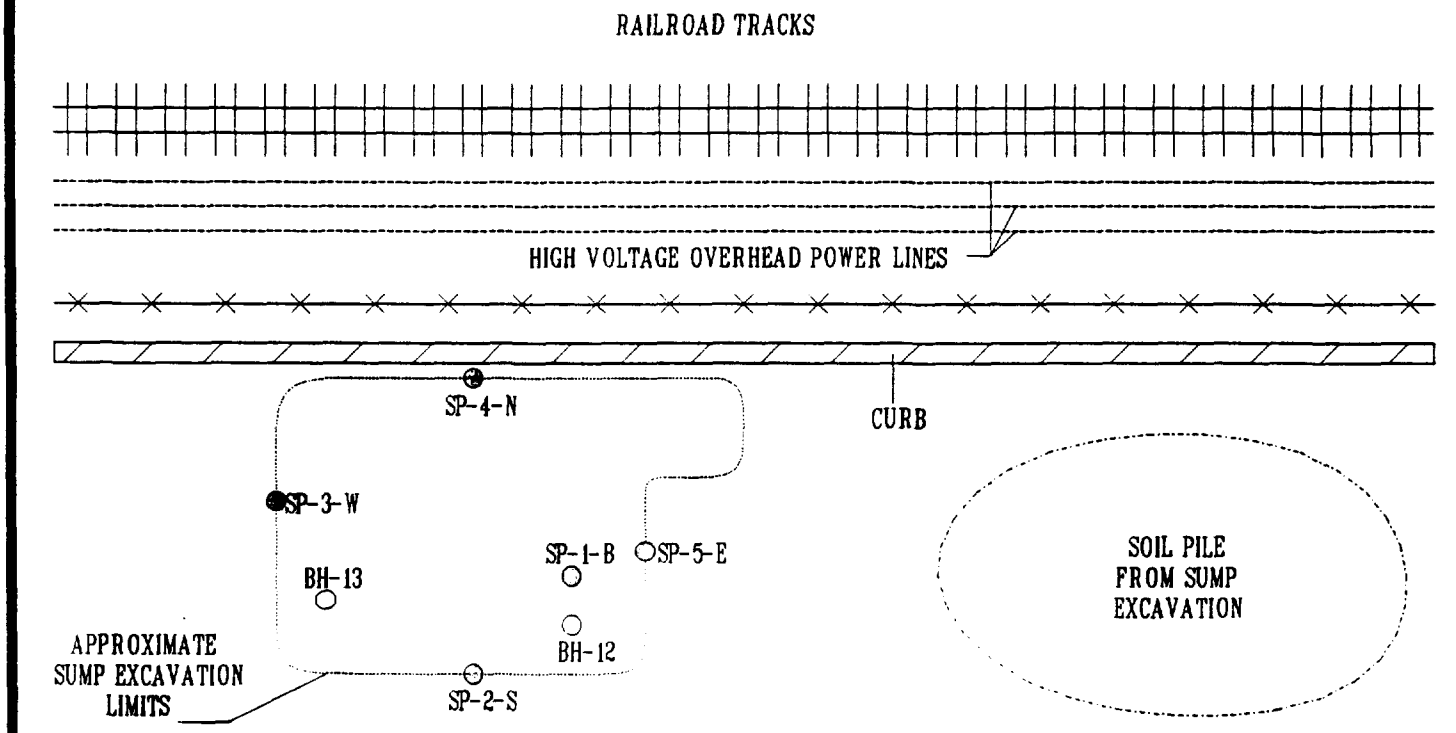
○ APPROXIMATE BOREHOLE LOCATION (2/91)

FENCE LINE

DRAWING NOT TO SCALE

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
CLARIFIER LOCATION MAP	3
STOODY COMPANY INDUSTRY, CALIFORNIA	PROJECT NO. 37861.00
	1/92



● APPROXIMATE BOREHOLE LOCATION (11/91)

○ APPROXIMATE BOREHOLE LOCATION (2/91)

-×- FENCE LINE

DRAWING NOT TO SCALE

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
SUMP LOCATION MAP	4
STOODY COMPANY INDUSTRY, CALIFORNIA — PROJECT NO. 37861.00	1/92

Table
Remediation Action Levels

Detected Chemical Constituents	Abbreviation	DHS or MCL (µg/L)	Cleanup Level** (mg/kg)
Organic			
Acetone	ACT	NA	NA
1,2-Dichloroethene (total)	1,2-DCE	0.5 MCL	.005
Cis-1,2-dichloroethene	Cis-1,2-DCE	6 MCL & DHS	0.06
Ethylbenzene	EB	680 MCL	6.80
Tetrachloroethene	PCE	5 MCL/DHS	0.050
Toluene	TOL	100 DHS	1.0
Trans-1,2-dichloroethene	TRANS-1,2-DCE	10 MCL & DHS	0.10
Trichloroethene	TCE	5 MCL	0.05
Total Recoverable Petroleum Hydrocarbons	TRPH	NA	10.0
Xylene, (total)	XYL	1750 MCL	17.5
Inorganic			
Chromium^{+6}	Cr^{tot} Cr^{+6}	50 MCL 50 MCL	0.5 0.5
Copper	Cu	1000 MCL	10.0
Nickel	Ni	150 SNARL	1.5

**Cleanup levels shown are 10 times DHS or MCL and converted to mg/kg
µg/L: Microgram per liter, generally equivalent to parts per billion
mg/kg: Milligram per kilogram, generally equivalent to parts per million
SNARL: Suggested no adverse response level
NA: Not available
DHS: California Department of Health Services
MCL: EPA maximum contaminant level